Abstract

~~The invention relates to an~~ An ellipsometer measurement apparatus for determining the thickness of a film applied on a substrate, ~~having~~ is described. The apparatus includes a light source ~~(8)~~ emitting an incoming beam ~~(9)~~, a transmitting optical system conveying the polarized incoming beam ~~(9)~~ to an incidence point ~~(P)~~ on the substrate, and a receiving optical system that has an analyzer ~~(5.4)~~ and conveys the reflected beam ~~(10)~~ formed at the incidence point ~~(P)~~ to a photodetector device ~~(5.7, 5.8)~~, the polarization direction of the incoming beam ~~(9)~~ and of the analyzer ~~(5.4)~~ being modified in time relative to one another, and the intensity changes produced thereby being evaluated by way of an evaluation device ~~(7)~~ in order to determine the film thickness. Easy handling and accurate measurement of the film thickness, even on difficult-to-access measured objects having differing curvatures, are achieved by the fact that an angle measurement device ~~(5.7, 5.8, 7.1)~~ is provided with which the angle ~~([beta])~~ of the reflected beam ~~(10)~~ relative to a tangential plane of the substrate ~~(1)~~ at the incidence point ~~(P)~~ can be sensed, and that the film thickness can be determined by way of the evaluation device ~~(7)~~ as a function of the angle ~~([beta])~~ that is sensed ~~(Figure 1)~~